

AI Text Completion Project Report

Model Used: Hugging Face – [openai-community/gpt2](#) via [transformers](#) library

Environment: Google Colab

1. Project Overview

This project explores how to interact with a generative AI model for text completion tasks using Python and Hugging Face's [transformers](#) library. The app allows a user to enter a prompt, adjusts generation settings, and outputs model-generated text.

2. Application Functionality

- Accepts user input (prompt)
- Validates prompt length and handles empty input
- Sends request to GPT-2 locally (not API-based)
- Allows user to control:
 - [temperature](#) (creativity)
 - [max_new_tokens](#) (length of output)
- Logs all prompts and outputs for evaluation

3. Prompt Testing & Evaluation

Prompt	Temp	Max Tokens	Generated Output	Evaluation
"Continue the story: Once upon a time, there was a robot who..."	0.8	100	[..well, you know, was a guy who was a robot. And, you know, that's what they called him. And he was an astronaut. Advertisement	Creative and engaging

So, you know, I mean, we were doing some stuff, we were doing some stuff, we were doing some stuff, and I remember being like, "What's this, a robot?" And I was like, "This is a robot." And I was like, "Wow, this is great.]

"Explain photosynthesis to a 10-year-old."

0.5 70

[In the lab, the researchers used a variety of different materials to create a single-cell solution that could be applied to a range of cells, including the eyes, lungs and blood vessels. They also tested the

Simple and clear

ability of the solution to be applied to a host of different diseases and conditions, including cancer, heart disease, diabetes, chronic fatigue syndrome, diabetes resistance, obesity, cancer and cancer cells.]

"Summarize the importance of the Renaissance."

0.7

100

[The Renaissance was a time of great change, which brought about a new way of life for the people, and this was reflected in the many changes that took place in the country. From the early Renaissance

Some historical inaccuracy

onwards,
there were
many
different
forms of
social life,
such as
working-class politics,
political
parties,
political
parties, and
the like. The
revolutionary
movement
that
emerged
from these
various
forms of
social life
was a
unique one,
and it is this
new social]

"Write a haiku about the ocean."

0.9

60

[It's hard to
imagine a
better way
to explain
why it's so
important
to me.

Beautiful and
poetic

I'm not
saying that
it's the only
way to feel
good. It's
also not
even that

easy to
understand.

I'm just
saying that
it's a very
personal
thing to me.

I'm not
saying that
it's bad, but
it's just that
I feel like I
can't get
over it.

You're
right.]

"What is recursion in computer
science?"

0.6 100

[Cynicality
is a term
that is used
to describe
the state of
affairs in a
system. It is
a term that
implies that
a system is
in
equilibrium
with one
another. It is
a term that
is used to
describe an
equilibrium
state that
has reached
an
equilibrium
point. In a
system, the

Technically
shallow

system is in equilibrium with a number of different states that are in the same state.]

4. Model Strengths & Weaknesses

Strengths:

- Handles open-ended, creative, or poetic prompts well
- Produces grammatically correct and fluent text
- Quick and responsive

Weaknesses:

- Can hallucinate facts in technical prompts
- Lacks deep logical reasoning
- Output is limited by GPT-2's smaller model size

5. Suggestions for Improvement

- Use a larger model
- Add multi-response generation for user choice
- Implement basic fact-checking via Wikipedia search API
- Deploy on web via Streamlit or Flask for better UX